



#7

SEQUENCE LISTING

<110> The University of British Columbia; and
Chemokine Therapeutics Corporation

<120> CXCR4 ANTAGONIST TREATMENT OF HEMATOPOIETIC CELLS

<130> 80021-257

<140> US 09/852,424

<141> 2001-05-09

<150> CA 2,305,787

<151> 2000-05-09

<150> US 60/205,467

<151> 2000-05-19

<160> 135

<170> PatentIn Ver. 2.0

<210> 1

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 1

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 2

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 2
 Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30
 Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45
 Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60
 Ala Leu Asn
 65

<210> 3
 <211> 67
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 3
 Lys Gly Val Ser Leu Pro Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30
 Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45
 Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60
 Ala Leu Asn
 65

<210> 4
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 4
 Lys Gly Val Ser Leu Ser Pro Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro

20 25 30
 Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45
 Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60
 Ala Leu Asn
 65

<210> 5
 <211> 67
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 5
 Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60

Ala Leu Asn
 65

<210> 6
 <211> 67
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 <213> Artificial Sequence

<220>
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 <222> (5)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 6
 Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30
 Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45
 Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60
 Ala Leu Asn
 65

<210> 7
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<220>
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 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 7
 Lys Gly Val Ser Leu Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30
 Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45
 Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60
 Ala Leu Asn
 65

<210> 8
 <211> 67
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 8

Lys Gly Val Ser Leu Ser Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 9

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 9

Lys Gly Val Ser Leu Ser Tyr Xaa Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 10

<211> 66

<212> PRT

<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 10
Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15
Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
20 25 30
Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
35 40 45
Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60
Leu Asn
65

<210> 11
<211> 66
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17
of disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 11
Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15
Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
20 25 30
Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
35 40 45
Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60
Leu Asn
65

<210> 12
<211> 66
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 12
Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15
Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
20 25 30
Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
35 40 45
Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60
Leu Asn
65

<210> 13
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 13
Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15
His

<210> 14
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 14

Lys Gly Val Ser Leu Ser Tyr Arg Cys

1

5

<210> 15

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<221> DISULFID

<222> (9)

<223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory (SDF-1 (1-9)2 [P2G])

<400> 15

Lys Gly Val Ser Leu Ser Tyr Arg Cys

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5

<210> 16

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<221> VARIANT

<222> (9)

<223> Xaa=an amino acid like lysine; ornithine or any other natural or unnatural amino acid serving as a linker between each of the arginines at position 8 in each of SEQ ID NOS 16 and 17.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory (SDF-1(1-8)2[P2G])

<400> 16

Lys Gly Val Ser Leu Ser Tyr Arg Xaa

1

5

<210> 17

<211> 8

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<220>
<221> SITE
<222> (8)
<223> binds with residue at position 9 of SEQ ID NO 16

<400> 17
Lys Pro Val Ser Leu Ser Tyr Arg
1 5

<210> 18
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 18
Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His

<210> 19
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 19
Lys Gly Val Ser Leu Pro Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His

<210> 20
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 20

Lys Gly Val Ser Leu Ser Pro Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His

<210> 21

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 21

Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His

<210> 22

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 22

Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His

<210> 23

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (6)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of

disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 23

Lys	Gly	Val	Ser	Leu	Xaa	Tyr	Arg	Cys	Pro	Cys	Arg	Phe	Phe	Glu	Ser
1				5					10					15	

His

<210> 24

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (7)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 24

Lys	Gly	Val	Ser	Leu	Ser	Xaa	Arg	Cys	Pro	Cys	Arg	Phe	Phe	Glu	Ser
1				5					10					15	

His

<210> 25

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 25

Lys	Gly	Val	Ser	Leu	Ser	Tyr	Xaa	Cys	Pro	Cys	Arg	Phe	Phe	Glu	Ser
1				5					10					15	

His

<210> 26
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 26
Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

<210> 27
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 27
Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

<210> 28
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 28

Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

<210> 29

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 29

Lys Gly Val Ser Pro Ser Tyr Arg Cys
1 5

<210> 30

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 30

Lys Gly Val Ser Leu Pro Tyr Arg Cys
1 5

<210> 31

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 31

Lys Gly Val Ser Leu Ser Pro Arg Cys
1 5

<210> 32

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 32
Lys Gly Val Ser Leu Ser Tyr Pro Cys
1 5

<210> 33
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 33
Lys Gly Val Ser Xaa Ser Tyr Arg Cys
1 5

<210> 34
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 34
Lys Gly Val Ser Leu Xaa Tyr Arg Cys
1 5

<210> 35
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 35

Lys Gly Val Ser Leu Ser Xaa Arg Cys

1

5

<210> 36

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 36

Lys Gly Val Ser Leu Ser Tyr Xaa Cys

1

5

<210> 37

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 37

Lys Gly Val Ser Xaa Tyr Arg Cys

1

5

<210> 38

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (6)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of

disclosure for possible structures for Btd

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 38

Lys Gly Val Ser Leu Xaa Arg Cys
1 5

<210> 39

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (7)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 39

Lys Gly Val Ser Leu Ser Xaa Cys
1 5

<210> 40

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<221> DISULFID

<222> (9)

<223> dimer of amino acids 1-9 in which the amino acid
chains are joined by a disulphide bond between
each of the cysteines at position 9 in each
sequence.

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 40

Lys Gly Val Ser Pro Ser Tyr Arg Cys
1 5

<210> 41

<211> 9

<212> PRT

<213> Artificial Sequence

<220>
 <221> DISULFID
 <222> (9)
 <223> dimer of amino acids 1-9 in which the amino acid
 chains are joined by a disulphide bond between
 each of the cysteines at position 9 in each
 sequence.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 41
 Lys Gly Val Ser Leu Pro Tyr Arg Cys
 1 5

<210> 42
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DISULFID
 <222> (9)
 <223> dimer of amino acids 1-9 in which the amino acid
 chains are joined by a disulphide bond between
 each of the cysteines at position 9 in each
 sequence.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 42
 Lys Gly Val Ser Leu Ser Pro Arg Cys
 1 5

<210> 43
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DISULFID
 <222> (9)
 <223> dimer of amino acids 1-9 in which the amino acid
 chains are joined by a disulphide bond between
 each of the cysteines at position 9 in each
 sequence.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 43
Lys Gly Val Ser Leu Ser Tyr Pro Cys
1 5

<210> 44
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
<221> DISULFID
<222> (9)
<223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 44
Lys Gly Val Ser Xaa Ser Tyr Arg Cys
1 5

<210> 45
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
<221> DISULFID
<222> (9)
<223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 45

Lys Gly Val Ser Leu Xaa Tyr Arg Cys
1 5

<210> 46
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
<221> DISULFID
<222> (9)
<223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 46
Lys Gly Val Ser Leu Ser Xaa Arg Cys
1 5

<210> 47
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (8)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
<221> DISULFID
<222> (9)
<223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 9 in each sequence.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 47
Lys Gly Val Ser Leu Ser Tyr Xaa Cys

<210> 48
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> DISULFID
<222> (8)
<223> dimer of amino acids 1-8 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 8 in each sequence.

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa-Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 48
Lys Gly Val Ser Xaa Tyr Arg Cys
1 5

<210> 49
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<221> DISULFID
<222> (8)
<223> dimer of amino acids 1-8 in which the amino acid chains are joined by a disulphide bond between each of the cysteines at position 8 in each sequence.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 49
Lys Gly Val Ser Leu Xaa Arg Cys
1 5

<210> 50
 <211> 8
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
 disclosure for possible structures for Btd

 <220>
 <221> DISULFID
 <222> (8)
 <223> dimer of amino acids 1-8 in which the amino acid
 chains are joined by a disulphide bond between
 each of the cysteines at position 8 in each
 sequence.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 50
 Lys Gly Val Ser Leu Ser Xaa Cys
 1 5

 <210> 51
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the arginines at position 8
 of SEQ ID NOs. 51 and 52.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 51
 Lys Gly Val Ser Pro Ser Tyr Arg Xaa
 1 5

 <210> 52
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> SITE
 <222> (8)
 <223> Binds to residue at position 9 of SEQ ID NO 51

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 52
 Lys Gly Val Ser Pro Ser Tyr Arg
 1 5

 <210> 53
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the arginines at position 8
 of SEQ ID NOS. 53 and 54.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 53
 Lys Gly Val Ser Leu Pro Tyr Arg Xaa
 1 5

 <210> 54
 <211> 8
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> SITE
 <222> (8)
 <223> binds to residue at position 9 of SEQ ID NO 53

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 54
 Lys Gly Val Ser Leu Pro Tyr Arg
 1 5

 <210> 55
 <211> 9

<212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the arginines at position 8
 of SEQ ID NOS. 55 and 56.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 55
 Lys Gly Val Ser Leu Ser Pro Arg Xaa
 1 5

 <210> 56
 <211> 8
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> SITE
 <222> (8)
 <223> binds to residue at position 9 in SEQ ID NO 55.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 56
 Lys Gly Val Ser Leu Ser Pro Arg
 1 5

 <210> 57
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the prolines at position 8
 in SEQ ID NOS. 57 and 58.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 57

Lys Gly Val Ser Leu Ser Tyr Pro Xaa
1 5

<210> 58
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> SITE
<222> (8)
<223> binds to residue at position 9 in SEQ ID NO 57.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 58
Lys Gly Val Ser Leu Ser Tyr Pro
1 5

<210> 59
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> MUTAGEN
<222> (9)
<223> Xaa=an amino acid like lysine; ornithine or any
other natural or unnatural amino acid serving as a
linker between each of the arginines at position 8
of SEQ ID NOS. 59 and 60.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 59
Lys Gly Val Ser Xaa Ser Tyr Arg Xaa
1 5

<210> 60
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<221> MUTAGEN
 <222> (5)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> SITE
 <222> (8)
 <223> binds to residue at position 8 of SEQ ID NO. 59.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 60
 Lys Gly Val Ser Xaa Ser Tyr Arg
 1 5

<210> 61
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (6)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any other natural or unnatural amino acid serving as a linker between each of the arginines at position 8 of SEQ ID NOs. 61 and 62.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 61
 Lys Gly Val Ser Leu Xaa Tyr Arg Xaa
 1 5

<210> 62
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (6)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> SITE
 <222> (8)
 <223> binds to residue at position 9 in SEQ ID NO 61.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 62
 Lys Gly Val Ser Leu Xaa Tyr Arg
 1 5

<210> 63
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <221> MUTAGEN
 <222> (9)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the arginines at position 8
 of SEQ ID NOS. 63 and 64.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 63
 Lys Gly Val Ser Leu Ser Xaa Arg Xaa
 1 5

<210> 64
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <221> SITE
 <222> (8)

<223> binds to residue at position 9 of SEQ ID NO 63.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 64

Lys Gly Val Ser Leu Ser Xaa Arg
1 5

<210> 65

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>

<221> MUTAGEN

<222> (9)

<223> Xaa=an amino acid like lysine; ornithine or any other natural or unnatural amino acid serving as a linker between each of the proline-amino acid chimeras at position 8 of SEQ ID NOs. 65 and 66.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 65

Lys Gly Val Ser Leu Ser Tyr Xaa Xaa
1 5

<210> 66

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>

<221> SITE

<222> (8)

<223> binds to residue at position 9 of SEQ ID NO 65.

<220>

<223> Description of Artificial Sequence: Engineered in

Laboratory

<400> 66

Lys Gly Val Ser Leu Ser Tyr Xaa

1

5

<210> 67

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>

<221> MUTAGEN

<222> (8)

<223> Xaa=an amino acid like lysine; ornithine or any other natural or unnatural amino acid serving as a linker between each of the arginines at position 7 of SEQ ID NOs. 67 and 68.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 67

Lys Gly Val Ser Xaa Tyr Arg Xaa

1

5

<210> 68

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See page 17 of disclosure for possible structures for Btd

<220>

<221> SITE

<222> (7)

<223> binds to residue at position 8 on SEQ ID NO 67

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 68

Lys Gly Val Ser Xaa Tyr Arg

1

5

<210> 69
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> MUTAGEN
<222> (8)
<223> Xaa=an amino acid like lysine; ornithine or any
other natural or unnatural amino acid serving as a
linker between each of the arginines at position 7
of SEQ ID NOs. 69 and 70.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 69
Lys Gly Val Ser Leu Xaa Arg Xaa
1 5

<210> 70
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> SITE
<222> (7)
<223> binds to position 8 of SEQ ID NO 69

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 70
Lys Gly Val Ser Leu Xaa Arg
1 5

<210> 71

<211> 8
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
 disclosure for possible structures for Btd

 <220>
 <221> MUTAGEN
 <222> (8)
 <223> Xaa=an amino acid like lysine; ornithine or any
 other natural or unnatural amino acid serving as a
 linker between each of the Bicyclic Turned
 Dipeptides at position 7 of SEQ ID NOS 71 and 72.

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 71
 Lys Gly Val Ser Leu Ser Xaa Xaa
 1 5

 <210> 72
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
 disclosure for possible structures for Btd

 <220>
 <221> SITE
 <222> (7)
 <223> binds to residue at position 8 of SEQ ID NO 71

 <220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

 <400> 72
 Lys Gly Val Ser Leu Ser Xaa
 1 5

 <210> 73
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 73
Arg Phe Phe Glu Ser His
1 5

<210> 74
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<221> DOMAIN
<222> (15)..(18)
<223> the number of glycines linking the N-terminal and
C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 74
Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 75
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<221> DOMAIN
<222> (18)..(21)
<223> the number of glycines linking the N-terminal and
C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 75
Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 76
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (15)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 76
 Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu
 1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25

<210> 77
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 77
 Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 78
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 78

Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 79

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (15)..(18)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 79

Lys Gly Val Ser Leu Pro Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 80

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (15)..(18)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 80

Lys Gly Val Ser Leu Ser Pro Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 81
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 81
 Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15
 Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 82
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (18)..(21)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 82
 Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
 20 25 30

Leu Asn

<210> 83
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (18)..(21)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 83

Lys	Gly	Val	Ser	Leu	Pro	Tyr	Arg	Cys	Pro	Cys	Arg	Phe	Phe	Glu	Ser
1				5				10						15	

His	Gly	Gly	Gly	Gly	Leu	Lys	Trp	Ile	Gln	Glu	Tyr	Leu	Glu	Lys	Ala
			20					25					30		

Leu Asn

<210> 84

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (18)..(21)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 84

Lys	Gly	Val	Ser	Leu	Ser	Pro	Arg	Cys	Pro	Cys	Arg	Phe	Phe	Glu	Ser
1				5				10						15	

His	Gly	Gly	Gly	Gly	Leu	Lys	Trp	Ile	Gln	Glu	Tyr	Leu	Glu	Lys	Ala
				20				25					30		

Leu Asn

<210> 85

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (18)..(21)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in

Laboratory

<400> 85

Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 86

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (15)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 86

Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 87

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (15)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 87

Lys Gly Val Ser Leu Pro Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 88
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<221> DOMAIN
<222> (15)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 88
Lys Gly Val Ser Leu Ser Pro Arg Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 89
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<221> DOMAIN
<222> (15)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 89
Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 90
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<221> DOMAIN
<222> (18)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 90
 Lys Gly Val Ser Pro Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 91
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 91
 Lys Gly Val Ser Leu Pro Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 92
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 92
 Lys Gly Val Ser Leu Ser Pro Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 93
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
<221> DOMAIN
<222> (18)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 93
Lys Gly Val Ser Leu Ser Tyr Pro Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15
His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 94
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> DOMAIN
<222> (15)..(18)
<223> The number of glycines linking the N- and
C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 94
Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15
Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 95
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 95
 Lys Gly Val Ser Leu Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15
 Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 96
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 96
 Lys Gly Val Ser Leu Ser Xaa Arg Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15
 Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 97
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (8)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of

disclosure for possible structures for P*

<220>

<221> DOMAIN

<222> (15)..(18)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 97

Lys Gly Val Ser Leu Ser Tyr Xaa Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 98

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>

<221> DOMAIN

<222> (18)..(21)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 98

Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 99

<211> 34

<212> PRT

<213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (6)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)..(21)
 <223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 99
 Lys Gly Val Ser Leu Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
 20 25 30

Leu Asn

<210> 100
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)..(21)
 <223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 100
 Lys Gly Val Ser Leu Ser Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
 20 25 30

Leu Asn

<210> 101
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (8)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)..(21)
 <223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 101
 Lys Gly Val Ser Leu Ser Tyr Xaa Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
 20 25 30

Leu Asn

<210> 102
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (5)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (15)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 102
 Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu
 1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 103
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> DOMAIN
<222> (15)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 103
Lys Gly Val Ser Leu Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 104
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> DOMAIN
<222> (15)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 104
Lys Gly Val Ser Leu Ser Xaa Arg Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 105
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (8)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> DOMAIN
<222> (15)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 105
Lys Gly Val Ser Leu Ser Tyr Xaa Cys Pro Cys Arg Phe Phe Xaa Leu
1 5 10 15

Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 106
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=P*=proline-amino acid chimera. See page 17 of
disclosure for possible structures for P*

<220>
<221> DOMAIN
<222> (18)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 106
Lys Gly Val Ser Xaa Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn

20

25

30

<210> 107
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (6)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 107
 Lys Gly Val Ser Leu Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 108
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (7)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of
 disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 108
 Lys Gly Val Ser Leu Ser Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 109
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (8)
 <223> Xaa=P*=proline-amino acid chimera. See page 17 of disclosure for possible structures for P*

<220>
 <221> DOMAIN
 <222> (18)
 <223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 109
 Lys Gly Val Ser Leu Ser Tyr Xaa Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15
 His Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 110
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (5)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
 <221> DOMAIN
 <222> (14)..(17)
 <223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 110
 Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly Gly
 1 5 10 15
 Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 111
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (14)..(17)
<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 111
Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Gly Gly Gly
1 5 10 15
Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 112
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (14)..(17)
<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 112
Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Gly Gly Gly
1 5 10 15
Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn

20

25

30

<210> 113
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (5)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
 disclosure for possible structures for Btd

<220>
 <221> DOMAIN
 <222> (17)..(20)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 113
 Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His
 1 5 10 15

Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu
 20 25 30

Asn

<210> 114
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MUTAGEN
 <222> (6)
 <223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
 disclosure for possible structures for Btd

<220>
 <221> DOMAIN
 <222> (17)..(20)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 114

Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu
20 25 30

Asn

<210> 115
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (17)..(20)
<223> The number of glycines linking the N- and
C-terminal amino acids may be varied.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 115
Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu
20 25 30

Asn

<210> 116
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (5)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (14)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 116
Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Leu Lys
1 5 10 15
Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 117
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (6)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (14)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<400> 117
Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Xaa Leu Lys
1 5 10 15
Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 118
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<221> MUTAGEN
<222> (7)
<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of
disclosure for possible structures for Btd

<220>
<221> DOMAIN
<222> (14)
<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 118

Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Xaa Leu Lys
1 5 10 15

Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25

<210> 119

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (5)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>

<221> DOMAIN

<222> (17)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 119

Lys Gly Val Ser Xaa Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 120

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (6)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>

<221> DOMAIN

<222> (17)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 120

Lys Gly Val Ser Leu Xaa Arg Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 121

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<221> MUTAGEN

<222> (7)

<223> Xaa=Btd=Bicyclic Turned Dipeptide. See Page 17 of disclosure for possible structures for Btd

<220>

<221> DOMAIN

<222> (17)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 121

Lys Gly Val Ser Leu Ser Xaa Cys Pro Cys Arg Phe Phe Glu Ser His
1 5 10 15

Xaa Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 122

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<220>

<221> DOMAIN

<222> (20)..(24)

<223> K20/E24 lactamization - domain cyclized

<400> 122

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 123
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<220>
<221> DOMAIN
<222> (23)..(27)
<223> K23/E27 lactamization - domain cyclized

<400> 123
Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 124
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Engineered in
Laboratory

<220>
<221> DOMAIN
<222> (24)..(28)
<223> E24/K28 lactamization - domain cyclized

<400> 124
Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
20 25 30

<210> 125
<211> 34
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<220>

<221> DOMAIN

<222> (27)..(31)

<223> E27/K31 lactamization - domain cyclized

<400> 125

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Gly Gly Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 126

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in Laboratory

<220>

<221> DOMAIN

<222> (15)..(18)

<223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<400> 126

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Ser Arg Gln
20 25 30

Val

<210> 127

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<221> DOMAIN

<222> (15)

<223> Xaa=CH2 repeated n times where n=1 - 20 or more.

<220>

<223> Description of Artificial Sequence: Engineered in

Laboratory

<400> 127

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Ser
1 5 10 15

Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Ser Arg Gln Val
20 25 30

<210> 128

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<220>

<221> DOMAIN

<222> (15)..(18)

<223> The number of glycines linking the N- and C-
reminal amino acids may be varied.

<400> 128

Lys Gly Val Ser Leu Ser Arg Tyr Cys Pro Cys Arg Phe Phe Gly Gly
1 5 10 15

Gly Gly Glu Glu Trp Val Gln Lys Tyr Val Asp Asp Leu Glu Leu Ser
20 25 30

Ala

<210> 129

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Engineered in
Laboratory

<220>

<221> DOMAIN

<222> (15)

<223> Xaa=(CH₂)_n where n=1-20 or more.

<400> 129

Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Xaa Glu
1 5 10 15

Glu Trp Val Gln Lys Tyr Val Asp Asp Leu Glu Leu Ser Ala
20 25 30

<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (9)
<223> AMIDATION; acts as a linking moiety between each arginine at position 8 in each of SEQ ID 130 and SED ID 131.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 130
Lys Gly Val Ser Leu Ser Tyr Arg Lys
1 5

<210> 131
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> SITE
<222> (8)
<223> Binds to the residue at position 9 on SEQ ID NO 130.

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<400> 131
Lys Gly Val Ser Leu Ser Tyr Arg
1 5

<210> 132
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (9)
<223> AMIDATION

<220>
<223> Description of Artificial Sequence: Engineered in Laboratory

<220>

<221> DISULFID
 <222> (9)
 <223> dimer of amino acids 1-9 in which the amino acid chains are joined by a disulphide bond between each of the amidated cysteines at position 9 in each sequence.

<400> 132
 Lys Gly Val Ser Leu Ser Tyr Arg Cys
 1 5

<210> 133
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> MOD_RES
 <222> (31)
 <223> AMIDATION

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in Laboratory

<400> 133
 Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15

Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 134
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (20)..(24)
 <223> K20/E24 Lactamization - domain cyclized

<220>
 <221> MOD_RES
 <222> (31)
 <223> AMIDATION

<220>
 <221> DOMAIN

<222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220> .
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 134
 Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15
 Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30

<210> 135
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> DOMAIN
 <222> (24)..(28)
 <223> K28/E24 Lactamization - domain cyclized

<220>
 <221> MOD_RES
 <222> (31)
 <223> AMIDATION

<220>
 <221> DOMAIN
 <222> (15)..(18)
 <223> The number of glycines linking the N- and
 C-terminal amino acids may be varied.

<220>
 <223> Description of Artificial Sequence: Engineered in
 Laboratory

<400> 135
 Lys Gly Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Gly Gly
 1 5 10 15
 Gly Gly Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn
 20 25 30